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DIAL ACCESS INFORMATION RETRIEVAL SYSTEMS, CIRCA--1967.

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TO REALIZE THE FULL POTENTIAL OF DIAL ACCESS INFORMATION RETRIEVAL SYSTEMS (DAIRS), GREATER AMOUNTS OF CREATIVE PROGRAMED MATERIAL MUST BE PRODUCED AND MADE READILY AVAILABLE TO TEACHERS SO THAT CLASSROOM TIME MAY BE USED MORE CONSTRUCTIVELY, AND TEACHERS MUST CHANGE FROM TEACHER-ORIENTED TO PUPIL-DIRECTED LEARNING ACTIVITIES SO THAT DAIRS CAN BEST AID THE INDEPENDENT LEARNER. INNOVATIVE TEACHERS IN ILLINOIS SCHOOLS HAVE MADE FLEXIBLE, ADVANTAGEOUS USE OF THE SYSTEM. INNOVATIONS INCLUDE DECENTRALIZED POSITIONING OF STUDENT DIALS TO FACILITATE INDEPENDENT DRILL, EXERCISES AND ACTIVITY SHEETS COORDINATED TO AUDIO PROGRAMS THAT MEET INDIVIDUAL DIFFERENCES, AND TEAM TEACHING SYSTEMS WHICH COORDINATE BOTH INDIVIDUAL AND GROUP USE OF DAIRS. CLOSED-CIRCUIT SYSTEMS TO PROVIDE STUDENTS WITH ACCESS TO TAPES ARE UNDER DEVELOPMENT, AND THE UNIVERSITY OF ILLINOIS, CIRCLE CAMPUS, IS STUDYING THE POSSIBILITY OF AN OPEN SYSTEM WHICH WILL PROVIDE NATIONAL DIRECT CONTACT WITH TAPE BANKS VIA TELEPHONE. THIS ARTICLE APPEARED IN THE "ILLINOIS JOURNAL OF EDUCATION," VOLUME 59, NUMBER 3, MARCH 1968, PAGES 51-54. (AR)

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DIAL ACCESS INFORMATION RETRIEVAL SYSTEMS CIRCA — 1967

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Although the boom in installing Dial Access Information Retrieval Systems has leveled off somewhat in the past year, school districts that have already acquired them have shown greater innovative usage in ever-widening areas of the curriculum. There is a definite trend to expand the use of dial access equipment to subject areas other than foreign languages. The preparation of varied speed audio programs for use with stenographic students, the use of correlated printed materials with audio lessons, and the application of programmed learning procedures in the development of some specialized audio programs are examples of this trend. It is apparent, however, that most teachers have neither sufficient time nor the inclination to develop materials in this field of education.

Due to the usual sharp increase in student usage once the audio and/or video program system is installed, without exception, school personnel have expressed the opinion that the original number of tape recorders in the storage bank was inadequate for the demand being placed on the system by both teachers and pupils. Where staff are oriented towards total curriculum use of DAIRS (Dial Access Information Retrieval Systems) equipment, it is a natural process to add additional program sources.

Hardware, however, continues to play the dominant role in the development of dial access systems even though the need for software is becoming increasingly evident especially for the type that will provide an audio program with visual cues. More must be done to produce programmed material that will work with Dial Access Retrieval Systems or teachers may become disenchanted with this electronic marvel that really can do nothing creative until software is developed by imaginative people and used creatively in the system.

Because of the lack of software that is prerecorded for use within a Dial Access System, many schools are acquiring a fast dubbing machine. This is still not the perfect solution since many hours are still being wasted while the teacher prepares commercially recorded tapes for use with a DAIRS recorder. Until companies begin to produce commercially prepared material ready to use with this equipment, the full potential of Dial Access will not be fulfilled. When this time arrives, teachers will once again be freed to use their time to work with students rather than to prepare material for use in the system.

In order to bring the world of sound into sharper focus for the student, the location of student dial positions at the high school level continues to be mainly in the learning center of the library. Here, the system is pupil oriented and offers the possibility of using the audio portion of the program in conjunction with supplementary audiovisual devices

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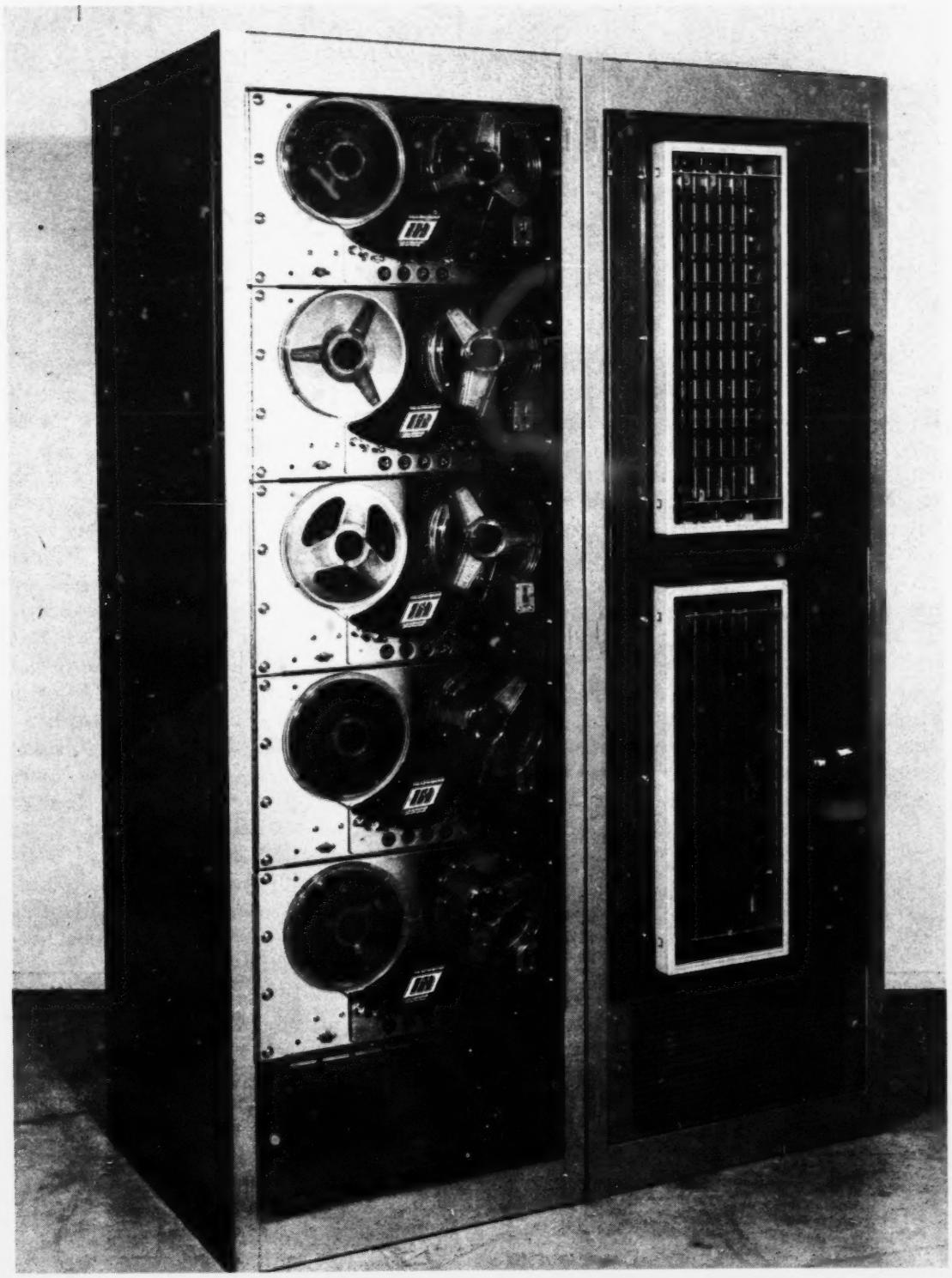

This is a typical switching apparatus and tape deck rack as used in a dial access learning laboratory system at AV Electronics, Inc.

and written or visual materials. Thus, a student can be required to use auditory, visual, and graphic skills in learning. The innovative use of filmstrips, slides, microfilm units, EDEX, etc., at individual student carrels, in conjunction with the audio program, does much to enhance the value of a lesson.

A departure from locating student dial positions in the library has been taken by the staff of Lake Forest High School, Lake Forest, Illinois. Under the leadership of Joseph Lawlor, DAIRS Director, listening posts have been placed between two study halls in order to provide students access to stored tape programs during their study periods. One decided advantage of this installation is to force students to use their free time for needed supplementary work rather than take valuable class time for drill.

Dial access at student positions in the electronic classroom in order to individualize instruction for students is also current practice. Teacher use, on the other hand, has dictated placement of dial positions on the console of the electronic classroom where they merely substitute for a tape playback unit and permit a person who is teacher oriented to control to a greater degree what the student will be offered. Instructors are also requesting that a dial access point for receiving programs be installed on the wall of classrooms so that the teacher can obtain an audio program from the tape bank and have it played through a loud speaker located at the front of the classroom. This is a relatively inexpensive way of bringing a stored audio program into a classroom for large group usage.

We are just now beginning to realize the potential value of DAIRS. However, in order to be effective, the staff of a school where such a system is installed must change their viewpoint from teacher oriented to pupil directed activities. No longer can the teacher afford the luxury of standing in front of her class giving utterance to her personal ideas and believe that learning is taking place in her pupils. Education occurs when students actively participate in the learning process. Hence, the teacher working with a DAIRS approach must learn to direct students towards a new learning experience and allow greater leadership on the part of the student. The teacher must still be there to answer questions, to test a student's progress and indicate what programs would be of greater use for solving a particular difficulty.

The crux of the problem is to use that intelligence located between the ears in an imaginative way so that this new equipment will be used most effectively rather than to think that by itself the Dial Access Information Retrieval System will be the panacea to all our problems. Equipment will function only as innovatively as the innovative teacher determines its use. We must never forget that the mere acquisition of new equipment or systems by themselves, no matter how intriguing they may be, will not solve our learning problems unless we put them to use effectively. Unfortunately, some teachers remain conservative even after the acquisition of Dial Access Information Retrieval Systems and continue teaching in the same manner in spite of aids that could and should improve the learning opportunities of students under their direction. It is far easier to continue doing the same thing year after year than to change knowing that we may be inadequate to the new situation.

Fortunately, the Dial Access Systems have shown their flexible use under the tutelage of innovative teachers. These instructors have learned that these systerms serve the independent learner best. Independent or self-imposed scheduling in some cases has made it feasible to allow student use at many different times of the day. Team teaching has taken on an added dimension by coordinating both individual and group use of the Dial Access System. Because of this, interest in using DAIRS in other areas of the curriculum

is expanding. Two obvious advantages are coming to the forefront: (1) one-time preparation by the teacher of material suitable for individual study by students; and (2) possibilities for constructing exercises, both audio and visual, that will provide students the exact drill needed to learn new concepts presented by the teacher in the regular classroom. Some teachers are beginning to develop student activity sheets or flow charts for use with audio programs that meet individual differences.

High schools that had hoped to connect their systems with those of neighboring junior or senior colleges are increasingly placing emphasis on developing a closed system, i.e., one in which dial access points are located only within the confines of the school. Students can obtain a DAIRS program from learning centers, student positions located in electronic classrooms, or other areas of the school. They can not, however, obtain a program by dialing from a phone at home. The universities are fast taking over the leadership in the development of open access systems in which students can obtain access to the tape bank from dial positions located within the confines of the university or from telephones outside the campus.

Universities have opened their Dial Access Information Retrieval Systems more and more to outside use by working closely with telephone companies in their area in order to provide greater direct contact with the tape storage bank to students from their homes, dormitories, etc. In the future there is the strong possibility that more universities will take the road of the University of Illinois, Circle Campus, in Chicago, where Dan Harrington and Joe Morrison are undertaking feasibility studies on a system whereby 600 simultaneous telephone calls could be received and channeled by computer to the correct program source of their excellent DAIRS system.

This approach in which anyone who desires to obtain a lesson from a DAIRS tape bank can do so from anywhere in a city, state, or nation provided that they are willing to pay the toll, contrasts sharply with the closed systems currently in existence at most schools. A truly open system that is tied in with a computer will allow random access from any point in the nation. Only the cost of telephone service from the point of origin to the Dial Access System may be the deterrent.

As we stand on the threshold of new uses for Dial Access Systems, it would appear that three avenues of approach will prevail: (1) teachers will continue to add new areas of the curriculum to the tape storage bank, (2) more open access systems will be established at the university level where the leadership in this area of educational innovation has settled, and (3) random access in the video program area will be added to DAIRS systems but only within a closed circuit system. Indeed, the future looks promising for education, if teachers can creatively bring this technological tool into the classroom for individualizing instruction for the pupil.

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